In the Claims:

Please enter the claim amendments to claims 1, 17, and 25-28, as shown. New claims 25-28 are added. The claim listing is as follows, replacing all previously presented listings.

1. (Currently Amended) A fuzzy distance transform-based computational method for analyzing digital images defining a volumetric region of an object from an image comprising: (a) obtaining an image of the targeted object; (b) finding a plurality of points in the image to generate a fuzzy subset and compute a fuzzy distance transform (FDT) of the fuzzy subset; ~~and~~ (c) compiling a computer processed plot or revised image based upon the computed FDT; and (d) displaying same in high resolution.

2. (Original) The method of claim 1, wherein the calculating step comprises assigning to a point in the fuzzy subset its respective fuzzy distance from a complement of a support of the fuzzy subset.

3. (Original) The method of claim 2, wherein the support comprises a set of all points in the fuzzy subset with a value greater than or equal to a support value.

4. (Original) The method of claim 3, wherein the FDT is in digital cubic space.

5. (Previously Presented) The method of claim 3, further comprising a step of sampling FDT values along a medial axis of the support of the fuzzy subset to estimate regional target object thickness distribution.

6. (Original) The method of claim 5, wherein the target object comprises bone marrow space, cortical bone, blood vessels or lung airways.

7. (Original) The method of claim 5, wherein FDT is computed in digital cubic space of resolution of target object thickness or smaller.

8. (Original) The method of claim 7, wherein the target object is in or from an animal or human subject.

9. (Original) The method of claim 8, wherein the image is obtained by magnetic resonance or computed tomography.

10. (Previously Presented) The method of claim 1, whereby FDT values are sampled along a medial axis directly computed from the fuzzy subset.

11. (Original) The method of claim 10, wherein the FDT is in digital cubic space.

12. (Original) The method of claim 11, wherein the target object comprises bone marrow space, cortical bone, blood vessels or lung airways.

13. (Original) The method of claim 11, wherein FDT is computed in digital cubic space of resolution of target object thickness or smaller.

14. (Previously Presented) The method of claim 13, wherein the targeted object is in or from an animal or human subject.

15. (Original) The method of claim 14, wherein the image is obtained by magnetic resonance or computed tomography.

16. (Original) The method of claim 3, further comprising applying one or more additional steps consisting of skeletonizing, feature extracting; analyzing morphological or shape-based object, computing regional object depth; calculating average or regional object thickness distribution; and local scaling.

17. (Currently Amended) A fuzzy distance transform-based computational method for evaluating or diagnosing bone disease in a subject by analyzing digital images defining at least one volumetric region of bone from or in the subject, the method comprising: (a) obtaining obtaining an image of targeted bone region; (b) finding a plurality of points in the image to generate a fuzzy subset and computing a fuzzy distance transform (FDT) of the fuzzy subset; ~~and~~ (c) compiling a computer processed plot or revised image based upon the computed FDT; and (d) displaying same in high resolution.

18. (Original) The method of claim 17, wherein the calculating step comprises assigning to a point in the fuzzy subset its respective fuzzy distance from a complement of a support of the fuzzy subset.

19. (Original) The method of claim 18, wherein the support comprises a set of all points in the fuzzy subset with a value greater than or equal to a support value.

20. (Original) The method of claim 19, wherein the FDT is in digital cubic space.

21. (Previously Presented) The method of claim 19, further comprising a step of sampling FDT values along a medial axis of the support of the fuzzy subset to estimate regional target object thickness distribution.

22. (Previously presented) The method of claim 17, further comprising selecting a therapy based on the diagnosis or evaluation of bone disease in the subject.

23. (Previously presented) The method of claim 22, further comprising administering said therapy to the subject.

24. (Previously presented) The method of claim 23, wherein the evaluation further comprises monitoring a progression or regression of bone disease in the subject, during or at one or more times after administering the selected therapy.

25. (Currently Amended) The method of claim 1, further comprising calculating structural thickness of an object from the digital image, wherein ~~A computer readable, non-signal bearing medium encoded with computer readable instructions for computing~~ a dynamic programming-based algorithm using ~~to compute fuzzy distance transform (FDT) by means of~~ a plurality of points in a digital image of a target object is used ~~to generate a~~ for generating the fuzzy subset, and ~~to calculate~~ for calculating the FDT of the fuzzy subset, the FDT terminating in a finite number of steps~~, thereby calculating structural thickness of an object from the digital image~~.

26. (Currently Amended) The ~~computer readable medium~~ method of claim 25, ~~further~~ comprising ~~a means for~~ assigning to a point in the fuzzy subset its respective fuzzy distance from a complement of a support of the fuzzy subset.

27. (Currently Amended) The ~~computer readable medium~~ method of claim 26, wherein the support comprises a set of all points in the fuzzy subset with a value greater than or equal to a support value.

28. (Currently Amended) The ~~computer readable medium~~ method of claim 27, wherein the FDT is in digital cubic space.

Claims 29-30. (Cancelled).

31. (New) The method of claim 17, further comprising calculating structural thickness of an object from the digital image, wherein a dynamic programming-based algorithm using a plurality of points in a digital image of a target object is used for generating the fuzzy subset, and for calculating the FDT of the fuzzy subset, the FDT terminating in a finite number of steps.

32. (New) The method of claim 31, comprising assigning to a point in the fuzzy subset its respective fuzzy distance from a complement of a support of the fuzzy subset.

33. (New) The method of claim 32, wherein the support comprises a set of all points in the fuzzy subset with a value greater than or equal to a support value.

34. (New) The method of claim 33, wherein the FDT is in digital cubic space.